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ABSTRACT

Cognitive apprenticeships have three essential characteristics: (1) they make use of the learner's prior knowledge; (2) they allow that learned procedures for solving problems may be modified in new situations; and (3) they acknowledge that individuals generate their own solution paths, often through a collaborative process. Preservice elementary teachers in an introductory elementary reading methods course were studied to investigate the influence of a "real school" practicum experience on their theoretical orientations and content knowledge. One group of preservice teachers (N=24) completed a 6-week elementary school practicum during the first half of the semester, then took an elementary reading methods course. A second group (N=24) completed the elementary reading methods course first, with the 6-week practicum second. Data relative to theoretical orientations were collected with the DeFord Theoretical Orientation to Reading Profile, and data relative to content knowledge were collected with the Rude Knowledge Test of Reading for Elementary School Teachers. Results indicate that the practicum experience did not appreciably influence the student teachers' theoretical orientations to teaching reading. The paper concludes by offering three recommendations for the next phase of the study: (1) include more indepth inquiry into the nature of the practicum; (2) conduct more complete analysis of theoretical orientation and content measures for both groups; and (3) examine the degree to which each teacher's theoretical orientation agrees with that of the supervising teacher. (SM)

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Theoretical Orientations and Content Knowledge of Pre-Service Reading Teachers: A Preliminary Investigation into Cognitive Apprenticeships

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Of all the factors related to elementary classroom teaching, the ability to teach children to read is perhaps the single most important. While subjects such as Science, Social Studies, Math and Music are certainly important in the elementary curriculum, learning to read is clearly the top priority. More time, effort, and resources are dedicated to that goal than any other. Parents expect their children to learn to read; principals and superintendents desire that students learn to read; and classroom teachers most certainly want their students to learn to read. Reading is the central focus of the elementary grades.

This priority is clearly evident when teacher education programs are examined. The typical elementary education student is often required to complete only one course in each of the areas of science, social studies, or math methods. However, elementary education students are quite commonly required to complete several courses in the reading/language arts areas, and are often encouraged to take additional courses in the area beyond those formally required. The development of the ability of prospective teachers to teach reading is viewed with singular importance.

In response to public examination of education in the United States, many states have focused efforts on examining and re-structuring their teacher education programs. Towards this task, the issue arises as to how pre-service teacher

knowledge and competence is best developed. A recently proposed concept of knowledge acquisition, known as situated cognition (Brown, Collins, and Duguid (1989), may provide useful insight into this issue.

In brief, situated cognition posits that robust knowledge acquisition is integrally bound to the situation in which the knowledge is acquired, and that when the context of the situation is ignored education defeats its own purpose. Central to the theory of situated cognition are the beliefs that (1) meaningful learning takes place through a process of enculturation and (2) that such meaningful learning is developed through participation in authentic activity. These two beliefs form the basis of the concept known as "cognitive apprenticeship".

In the typical elementary teacher education program students are given not only a sequence of college courses but also varying degrees of direct classroom experiences. Although the most common direct classroom experience is that of full-time student teaching, many teacher education programs attempt to provide the opportunity for students to gain actual classroom experience earlier in the program. Such earlier experiences, often known as practica, are usually taken by students during the sequence of professional methods courses. They tend to be of limited duration and are often part-time. They often occur in conjunction with specific methods courses. This is in contrast to the student teaching experience which

is generally full-semester in length, and is designed to be a full-time, summative experience following completion of formal coursework. Practicum experiences, on the other hand, provide pre-service teachers an earlier opportunity to begin assimilating the theory and methodology acquired during coursework, and to practice their teaching skills in the actual classroom setting. The question, then is whether or not the elementary practicum experience functions as a cognitive apprenticeship for pre-service elementary teachers.

Statement of the Problem

The purposes of this study were (1) to provide a preliminary investigation into the influence of a school-based elementary practicum experience on the theoretical orientations and content knowledge of pre-service elementary teachers enrolled in an introductory elementary reading methods course; and (2) to suggest avenues for further investigation in this area.

Review of Related Literature

Situated Cognition

The concept of situated cognition has been presented by Brown, Collins and Duguid (1989). Basic to their theory is the idea that knowledge develops through the process of continued, situated use. Using the analogy of language development, they suggest that knowledge is the product of both the activity and the situation in which it is used. Therefore, knowledge is always "under construction" due to the

fact that the situations in which knowledge is used continually changes.

Learning is as much a process of enculturation in a particular discipline as it is the result of abstract learning activities. It involves not merely knowing the "rules" of a particular concept but also an understanding of how the concept is used within the community and culture of its discipline. If knowledge is viewed as a "tool" then the learner's task is to develop an understanding of both the nature of the tool and how the tool is used by the members of the appropriate cognitive community.

Brown, Collins, and Duguid (1989) propose that the process of learner enculturation takes place through authentic activity. They define such as being the ordinary practices of the culture. Because the culture of school is often different from that of the practitioners of a given discipline, students often learn the "rules" of a discipline but interpret and apply them in light of classroom culture. Thus it is not uncommon to find students engaged in, for example, history activities which would never be performed by an actual historian. Similar observations are evident in the areas such as mathematics, language, art, and science. If learners are to truly develop robust knowledge in a given discipline, then they must enter into the culture of the discipline, much as a practitioner of that discipline has already done.

Brown, Collins, and Duguid (1989) propose that the

process of enculturation in a given discipline is best accomplished through cognitive apprenticeship. Much as one may learn a craft through an apprenticeship, they suggest that one may best develop robust cognitive knowledge in a similar manner. This is developed through the use of authentic practices and social interaction which, in essence, allow learners to become part of the culture of the practitioner. The critical aspect of robust knowledge is found in the intersection of understanding of the tool, understanding of the activity, and understanding of the culture.

Cognitive apprenticeships have three essential characteristics: (1) They provide a beginning where tasks are embedded in familiar activities, and therefore they make use of the learner's prior knowledge (much as in cognitive scaffolding and advance organizers). (2) They allow that learned algorithms and procedures for solving problems are not absolute and indeed may be modified in light of task demands and situations. (3) They acknowledge that individuals generate their own solution paths, often through a collaborative process which serves to further enculturate the learner into the discipline as experienced by the practitioner.

Cognitive apprenticeship also suggests some implications: (1) The role of activity within the culture and context of a given discipline is essential. (2) Cognitive apprenticeship suggests the importance of modeling, coaching, and fading. (3) Cognitive apprenticeship suggests the empowerment of the

learner for later, independent learning.

Although the concept of cognitive apprenticeship has only recently been proposed, it has well established roots (see the discussion in Brown, Collins, and Duguid, 1989, as well as that of Wineburg, 1989). Researchers are already beginning to explore its significance in light of related concepts (The Cognition and Technology Group at Vanderbilt, 1990). Although questions have been raised regarding aspects of cognitive apprenticeship and its adaptability in school settings (Palincsar, 1989; Wineburg, 1989), further exploration of its implications would seem to be well warranted.

Teacher Beliefs and Theoretical Orientation

The essential task faced by every teacher is that of making appropriate decisions regarding instructional materials and methods. Each class is different, and each child unique. Teachers are continually challenged to select the most meaningful and effective strategies available in order to maximize the learning each child receives.

This decision making process is particularly significant in the area of reading. Numerous instructional strategies, programs, and sets of materials are available for teachers to choose from when teaching reading. As May (1990) has stated, reading teachers are continually faced with such choices, which frequently must be made moment-by-moment. The question then becomes one of how teachers make such decisions. When faced with a variety of competing materials and methods, how

does the teacher decide? May argues that a teacher's view of the reading process influences the decisions a teacher makes, and thus influences the reading instruction.

Gove (1983) has argued in the same direction. She states that teachers have an implicit theoretical orientation, even though they are not always aware of such. She suggests that teachers can profit instructionally if they are made aware of the theoretical orientation they possess.

Formal investigation into teachers' beliefs about reading and the reading process has been conducted by Bawden, Buike and Duffy (1979). Building on previous work (Duffy and Metheny, 1979), they used a combination of teacher surveys and classroom observations to explore four aspects of teacher beliefs: (1) Whether teachers posses theoretical conceptions related to the nature of the reading process; (2) The nature of those theoretical conceptions; (3) How those theoretical conceptions develop; and (4) The degree to which those theoretical conceptions guide the instructional process. Their investigation yielded the following general principles about teachers' theoretical conceptions of reading:

1. Teachers do formulate theoretical conceptions about the reading process.

2. Most teachers generally possess more than one such theoretical conception.

3. Teachers often explain instructional decisions with "non-reading" theoretical conceptions.

4. Some teachers possess more complex theoretical reading conceptions than other teachers.

5. The stability of the teachers' theoretical conceptions varies from teacher to teacher.

6. A teacher's theoretical conceptions may be influenced by the grade level they teach and the ability levels of the students they work with.

7. Teachers change their theoretical conceptions over time.

In general, Bawden, Buike and Duffy (1979) found that teachers' theoretical conceptions of the reading process are reflected in classroom practice, but instructional decisions are not exclusively guided by such conceptions. Theoretical conceptions are but one of several influences. They argue that teachers' theoretical conceptions and instructional practices are not linked in a simple, linear model, as some have suggested.

Combs and Yellin (1985) explored the relationship between beliefs and practices with pre-service elementary reading teachers. They focused on three factors: (1) Beliefs about education in general (more specifically, the nature of their beliefs about educational psychology); (2) Beliefs about the reading process; and (3) Whether awareness of beliefs would significantly change the degree of congruence between beliefs and practices. They argued that these beliefs could be identified along one of several parallel continua. When

considering conceptions related to the nature of educational psychology, the continuum has at one end the behaviorist orientation, and is represented by theoreticians such as B.F.Skinner (1974). At its other end is the humanist orientation, represented by theoreticians such as Maslow (1962) and Rogers (1969). Lying between these extremes is the cognitive-field orientation, represented by people such as Bigge and Hunt (1980).

Parallel with this psychological continuum is the reading process continuum. On the one extreme would be the bottom-up orientation, represented by the early work of Gough (1972), and LaBerge and Samuels (1974). On the other end would be found the top-down orientation, seen in the work of Goodman (1970) and Smith (1971). The middle position is the interactive/compensatory orientation, represented by theoreticians such as Rummelhart (1977) and Stanovich (1980).

Based on the above conceptions, Combs and Yellin (1985) found that pre-service elementary teachers tended to be (1) mostly centered around the cognitive orientation in their educational psychology beliefs; (2) were more divergent along the continuum in their orientation towards reading beliefs; and (3) did not significantly change the degree of congruence within either their beliefs or practices as a result of their awareness of their beliefs. Their overall conclusion was that disciplines such as reading cannot be taught exclusive of personal beliefs, and that teachers must be given opportunity

to integrate educational beliefs with the content of what they teach.

Controversy currently exists among reading and language arts educators over which theoretical position (top-down, interactive, or bottom-up) is "correct." While not necessarily a new controversy, it is nevertheless receiving increased attention. The debate is often presented with religious fervor, with the lines clearly drawn between the various camps. As a result, pre-service teachers may often find themselves confused as to which theoretical position "makes the most sense." If Bawden, Buike and Duffy (1979) are correct in their conclusion that teachers form theoretical positions, and that such theoretical positions are often reflective of direct classroom experiences, then it would be reasonable to assume that the theoretical positions of pre-service teachers who had completed an actual classroom experience would differ from those that had not completed such an experience.

This assumption was explored by this author in an earlier study conducted in Spring semester 1990 (Evans, 1990). Theoretical orientations of pre-service teachers were measured using the DeFord Theoretical Orientation to Reading Profile (TORP) (see DeFord, 1985). Students having completed an elementary practicum prior to enrolling in the reading methods course demonstrated a significantly different theoretical orientation when compared to students enrolled in the reading

methods course without having completed a previous practicum ($t = 2.93$, $p < .05$). These results suggest the possibility that the practicum experience provides a unique experience that serves to influence pre-service teachers' theoretical conceptions about the reading process. The Elementary Practicum Experience

At the time of the study, elementary education majors participating in this study were required to complete a classroom-based practicum experience of six weeks duration. The purpose was to provide guided experience in which the practicum student could gradually assume the role of the teacher, and in the process develop effective techniques of plann ng and instruction.

Students generally enrolled in both the practicum experience and the elementary reading methods course during the same semester. One group completed the practicum during the "A" block of the semester followed by the reading methods course during the "B" block of the same semester. A second group would complete the same two experiences, but in the opposite sequence. In this study, the group completing the practicum during the "A" block was referred to as the "practicum-first" group, whereas the group completing the methods course during the "A" block was referred to as the "course-first" group.

Although the specifics of the practicum experience varied due to the unique differences of students and classrooms, a general guideline was developed which suggested appropriate

activities for practicum students.

It was suggested that during the first week of the practicum, students should acquaint themselves with the elementary children and the classroom routines. They might begin instructional duties with individual children or small groups. Whole class activities, such as reading a story or conducting a spelling activity might also be considered.

The second week should see the student beginning to take more responsibility for the instructional program. It was suggested that the student begin assuming responsibility for part of the reading program, such as taking charge of the instruction of a single reading group.

The third week might see the student assuming additional instructional responsibilities, again focused in the area of reading. Typical assignments might include assuming a second reading group, or changing to a different group than the one previously worked with. Instructional duties in other areas, such as science or social studies, might also be added.

It was suggested that by the fourth week the student should be regularly teaching at least two reading groups, as well as instructing in other subject areas.

During the fifth and sixth weeks of the practicum, students should continue their instructional responsibilities as previously developed. Students might be allowed additional teaching responsibilities, as determined by the cooperating teacher's judgement. When possible, students at this point in

the experience should have responsibility for teaching all reading groups.

Although the practicum was not specifically designed to develop the ability to teach reading, such was often the major emphasis of the experience. This was appropriate in light of the fact that the major task of elementary teachers is often considered to be that of teaching reading. Thus, even though the practicum was designed to allow the student to teach various subjects, the teaching of reading was at least an implicit, if not a directly acknowledged goal.

It is important for purposes of this study to note the placement of the practicum experience within the sequence of coursework in the teacher education program. Students typically did their practicum experience during the same semester in which they enrolled in the reading methods course. The practicum and methods course were completed "back to back" in half-semester blocks; students did the practicum in one half of the semester and took the methods course in the other half.

Prior to the semester in which they did their practicum and reading methods, students were required to have completed one other language arts course: a basic introductory course in elementary language arts (El/Se 306). It was assumed in this study that student's theoretical orientations, as assessed at the beginning of the practicum/reading methods semester, had been formed to some degree based on their previous theoretical

exposure gained from the introductory language arts class. However, what one encounters in the college classroom (the oft-derided "ivory tower") is often not an accurate portrayal of the "real world" of school. Therefore this study attempted to determine if students modified their theoretical orientations in light of the "real school" practicum experience.

Procedures

It was hypothesized in this research that the elementary school practicum experience would function as a cognitive apprenticeship. Two groups of pre-service teachers from a northwest university voluntarily participated in this study (N=48). The study was conducted during the 1990 Fall semester. One group, designated the "practicum-first" group (N=24), completed a six week elementary school practicum experience during the first half of the semester, followed by an elementary reading methods course during the remaining half of the semester. The second group, designated the "course-first" group (N=24), completed their elementary reading methods course during the first half of the semester followed by the six week elementary practicum during the second half of the same semester. Initial plans called for data collection to be conducted with both groups at the following three times: (1) beginning of the semester; (2) the semester mid-point; and (3) the end of the semester. Data relative to theoretical orientations was to be collected using the DeFord Theoretical

Orientation to Reading Profile (TORP) (DeFord, 1985), and data relative to content knowledge was to be collected with the Rude Knowledge Test of Reading for Elementary School Teachers (Rude, 1981). However, due to unforseen complications, data collection for the course-first group was only able to be conducted at the beginning and middle of the semester. Therefore, the primary focus of the investigation to be reported in this paper is that of the theoretical orientations and content knowledge of the practicum-first group. Available data from the course-first group will be discussed as appropriate.

Results

The first aspect of the investigation centered on the development of the pre-service teachers' theoretical orientations towards the reading process. If teachers' theoretical conceptions related to the reading process are influenced by "real school" experiences (Bawden, Buike, and Duffy, 1979), then it should be expected that changes in theoretical orientations would be observed within the practicum-first group from the beginning to the middle to the end of the semester. Although the means of the TORP scores did increase over the course of the semester, one-way analysis of variance for within-subjects designs found no significant difference ($F = 2.39_{(2,68)}$, $p > .05$). The mean scores are reported in Table 1.

Insert Table 1 About Here

The second aspect of the investigation centered on the development of the pre-service teachers' content knowledge of reading methods and materials. Because the elementary practicum experience was not specifically designed to develop reading content knowledge, it was expected that measures of content knowledge would show no appreciable change during the practicum period of the semester. However, it was logically expected that content knowledge would increase during the portion of the semester in which subjects were enrolled in the reading methods course.

Data collected by the Rude test of content knowledge showed a steady increase in mean scores from the beginning to middle to end of the semester. One-way analysis of variance for within-subjects designs found the increase to be significant ($F = 8.44_{(2,69)}$, $p < .05$). Post-hoc analysis indicated significant difference in the beginning-semester and end-of-semester scores. Table 2 presents the mean scores.

Insert Table 2 About Here

Discussion

1. Theoretical Orientation

It was anticipated that the elementary school practicum experience would influence the theoretical orientations of the

pre-service teachers involved in this study. While mean TORP scores did evidence a degree of change during the practicum phase of the semester, with a "leveling-off" during the course-work period of the semester, such changes were not found to be statistically significant. Furthermore, the mean TORP scores for all three times of measurement fell within the central, "skills" classification, as defined by DeFord (1979). Thus one might conclude that, based on these findings, that the practicum experience forming the basis of this study did not appreciably influence pre-service teachers' theoretical orientations to teaching reading. These findings echo those previously cited in the Combs and Yellin (1985) study.

Several issues of interest arise from these findings:

1. The failure to find significant change over the course of the practicum might have been due, in part, to the general nature of the practicum experience. Although certain basic expectations were established, the practicum itself was largely up to the direction of each participating classroom teacher. As in many such situations, the range of experiences and expectations given pre-service teachers varied widely. It was possible that some pre-service teachers were given only minimal amounts of guidance that could be interpreted as being "enculturation" whereas others found themselves working quite closely with supervising classroom teachers, in effect being readily accepted as "one of the staff."

To explore this dimension of the practicum, subjects were

occasionally asked to write short, open-ended reflective journal entries related to their practicum experience. Although detailed examination of these writings remains to be conducted, initial examination of this more qualitative data suggests it will provide useful information. As a result, the next phase of this study will incorporate such reflective writing in a more systematic and focused manner.

2. If the particular practicum experience in this study did not appreciably affect the pre-service teachers' theoretical orientations, then the question arises as to just how those orientations were initially formed. This question is intriguing in large part due to the nature of the pre-service teachers' previous coursework. Prior to the semester in which the pre-service teachers enroll in the practicum/reading methods sequence, they were required to have completed an introductory course in elementary language arts. The content or that course, and the instructional approach is quite reflective of the whole language orientation. If students formed their theoretical orientations based in large part on the experiences gained from that course, then one might logically have expected the mean TORP scores from the beginning of the semester to have been higher, somewhere closer, if not actually within, the whole language category. (The whole language category, as defined by DeFord (1979), includes those TORP scores falling above 110.) Such was not found to be the case. This points to areas fruitful for

additional investigation.

3. The possibility existed that some students found themselves in a practicum situation where their theoretical orientation did not closely match that of their cooperating teacher. Perhaps students in closer congruence with the theoretical orientation of their cooperating teachers might have developed theoretical orientations and beliefs differently from students that were not as closely congruent in theoretical orientations with their cooperating teachers. This study provided a preliminary investigation into this factor. Future investigation would profit from an assessment of the cooperating teachers' theoretical orientations, so as to allow establishment of degree of congruence between cooperating teacher and pre-service teacher.

Although formal statistical analysis comparing the theoretical orientations of the practicum-first group and the course-first group is problematic, due to the incomplete data for the course-first group (see Freund, 1980), the data that are available suggest some interesting findings. The course-first group evidenced a higher beginning-semester mean TORP score ($\bar{X}$ = 92.00) higher that of the practicum-first group ($\bar{X}$ = 84.54). Furthermore, at the mid-semester point the course-first group continued to reflect higher mean scores, but this difference had narrowed ($\bar{X}$ = 94.75 for the course-first group; $\bar{X}$ = 91.30 for the practicum-first group). A 2 x 2 analysis of variance for mixed designs indicated a significant difference for the main

effect of time of testing ($F = 17.49_{(1,44)}$; $p < .05$), with no significant differences found for either the main effect of group ($F = 2.79_{(1,44)}$; $p > .05$), or the interaction of time of testing with group ($F = 3.17_{(1,44)}$; $p > .05$). These findings are interesting, particularly in light of previous findings which reported significant differences between groups in similar situations (Evans, 1990). Figure 1 presents a comparison of the observed means for both groups.

Insert Figure 1 About Here
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2. Content Knowledge

It was anticipated that the elementary practicum experience would not significantly affect the subjects' content knowledge of reading methods and materials, primarily due to the fact that the practicum was not specifically designed to teach reading methods. This expectation was supported by the analysis for the practicum-first group. Although mean scores of content knowledge showed a steady increase over the duration of the semester, the increase was only significant when beginning-semester and end-semester scores were compared ($F = 8.44_{(2,69)}$; $p < .05$). Scores from the mid-semester measurement were higher than those from the beginning-semester measurement, and lower than those of the end-semester measurement, yet the difference was not significant.

As with the analysis of the TORP scores, formal

comparison with the course first group is difficult. Yet cursory examination of the scores for both groups shows an interesting parallel. Beginning-semester scores for both groups were approximately equal ($\bar{X}$ = 28.67 for the practicum-first group, $\bar{X}$ = 29.63 for the course-first group), a finding not unexpected given that both groups had started the semester with similar backgrounds of previous course experiences. By the mid-semester point, the difference in mean scores had widened somewhat ($\bar{X}$ = 31.67 for the practicum-first group, $\bar{X}$ = 33.33 for the course-first group). A 2x2 analysis of variance for mixed designs revealed a significant difference for the main effect of time-of-testing ($F = 15.19_{(1,44)}$; $p < .05$), with no significant differences for either the main effect of group ($F = 1.10_{(1,44)}$; $p > .05$), or for the interaction of time-of-testing with group ($F = .17_{(1,44)}$; $p > .05$). A comparison of the observed mean scores for both groups is presented in Figure 2.

Insert Figure 2 About Here

Conclusions

Findings from the data in this study provide useful information and give direction for focusing future research in this topic. Specifically. the following is recommended for the next phase of the study:

1. More in-depth inquiry into the nature of the practicum experience itself, (1) focusing on identification of more

specific factors related to cognitive apprenticeship, such as coaching, enculturation, and participation in "authentic activities"; and (2) the degree to which pre-service teachers are exposed to those factors during the practicum.

2. More complete analysis of both theoretical orientation measures and content knowledge measures for both groups, thus allowing comparisons both between and within groups.

3. Examination of the degree to which the individual pre-service teacher's theoretical orientation is in agreement with that of the supervising teacher, and the degree to which such agreement may influence the pre-service teacher's TORP scores.

References

Bawden, R., Buike, S., and Duffy, G. G. (1979). Teacher Conceptions of Reading and their Influence on Instruction. (Research Series No. 47). East Lansing, MI: Michigan State University, Institute for Research on Teaching. (ERIC Document Reproduction Service No. ED 174 952)

Bigge, M.L. and Hunt, M.P. (1980). Psychological foundations of education (3rd ed.). New York, Harper and Row.

Brown, J.S., Collins, A., and Duguid, P. (1989). Situated cognition and the culture of learning. Educational Researcher, 18(1), 32-42.

Cognition and Technology Group at Vanderbilt, The (1990). Anchored instruction and its relationship to situated cognition. Educational Researcher, 19(6), 2-10.

Combs, M. and Yellin, D. (1985). Congruence of Beliefs and Practices of Elementary and Special Education Majors. Paper presented at the annual meeting of the National Reading Conference, San Diego. (ERIC Document Reproduction Service No. ED 267 379)

DeFord, D.E. (1979). The DeFord Theoretical Orientation to Reading Profile (TORP). ERIC Document Reproduction Service No. ED 236 661.

DeFord, D.E. (1985). Validating the construct of theoretical orientation in reading. Reading Research Quarterly, 20, 351-367.

Duffy, G. and Metheny, W. (1979). Measuring teacher's beliefs about reading. (Research Series No. 41). East Lansing, MI: Michigan State University, Institute for Research on Teaching. (ERIC Document Reproduction Service No. ED 174 954)

Evans, A.D. (1990). Preservice reading teachers and theoretical orientation: An application of the DeFord TORP. Unpublished manuscript, Washington State University, Department of Elementary and Secondary Education.

Freund, R. J. (1980). The case of the missing cell. The American Statistician, 34(2), 94-98.

Goodman, K.S. (1970). Reading: A psycholinguistic guessing game. In H. Singer and R.B. Ruddell (Eds.). Theoretical models and processes of reading. Newark, DE: International Reading Association.

Gough, P.B. (1972). One second of reading. In J.F.Kavanagh and I.G. Mettingly (Eds.). Language by ear and by eye. Cambridge, MA: M.I.T. Press.

Gove, M.K. (1983). Clarifying teachers' beliefs about reading. The Reading Teacher, 37, 261-268.

LaBerge, D. and Samuels, S.J. (1974). Toward a theory of automatic information processing in reading. Cognitive Psychology, 6, 293-323.

Maslow, A.H. (1962). Toward a psychology of being. New York: D. Van Westrand.

May, F.B. (1990). Reading as Communication: An Interactive Approach (3rd ed.). Columbus, OH: Merrill Publishing Co.

Palincsar, A.S. (1989). Less charted waters. Educational Researcher, 18(4), 5-7.

Rogers, C. (1969). Freedom to learn. Columbus, OH: Charles E. Merrill.

Rude, R.R. (1981). A knowledge test of reading for elementary school teaching. Journal of Educational Research, 74, 411-418.

Rummelhart, K.E. (1977). Toward an interactive model of reading. In S. Dornic (Ed.). Attention and performance VI. Hillsdale, NJ: Lawrence Erlbaum Associates.

Skinner, B.F. (1974). About behaviorism. New York: Knopf.

Smith, F. (1971). Understanding reading: A psycholinguistic analysis of reading and learning to read. New York: Holt, Rinehart & Winston.

Stanovich, K.E. (1980). Toward an interactive-compensatory model of individual difference in reading fluency. Reading Research Quarterly, 16, 32-71.

Wineburg, S.S. (1989). Remembrance of theories past. Educational Researcher, 18(4), 7-10.

Table 1

Mean TORP Scores for Practicum-First Group

Time of Testing	$\bar{X}$	s
Beginning-of-Semester	84.54	13.66
Mid-Semester	91.30	12.65
End-of-Semester	91.54	11.25

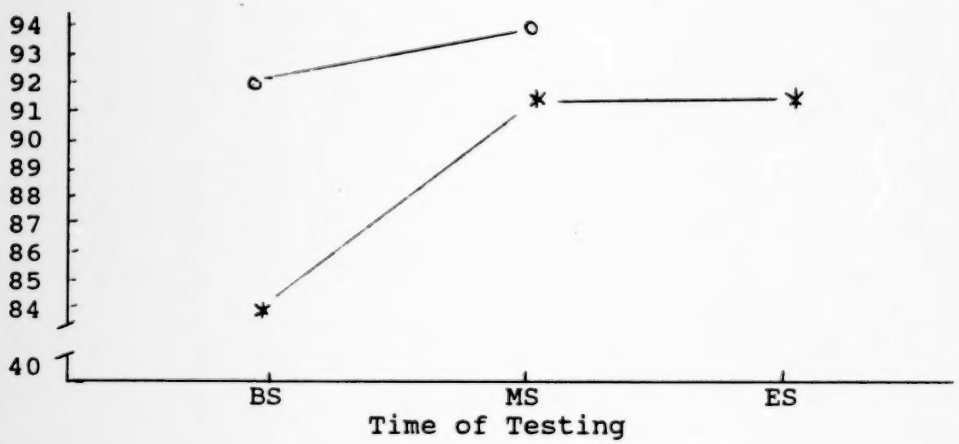
Table 2

Mean Rude Scores for Practicum-First Group

Time of Testing	$\bar{X}$	s
Beginning-of-Semester	28.67	3.96
Mid-Semester	31.67	4.99
End-of-Semester	34.17	4.90

Figure 1

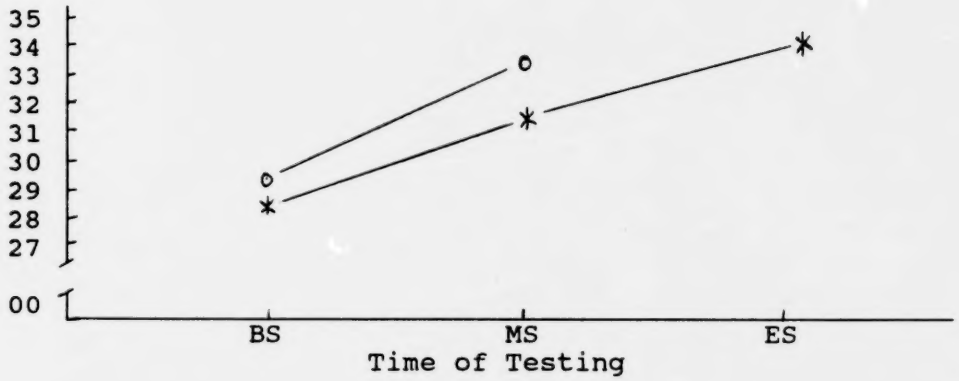
Comparison of Mean TORP Scores



O Course-first group
* Practicum-first group

Figure 2

Comparison of Mean Rude Scores



o Course-first group
* Practicum-first group